



SISP 1102

Chemistry in the Modern World

Course Description

This course intends to inspire students to appreciate how chemistry benefits our society. The important fundamental chemistry topics covered include atomic structures, molecules, bonding, acids and bases, antioxidants and some basic color chemistry. A laboratory component supplementary to the lecture topics will be provided.

Topics

1. Atomic Structure, Bohr Atomic Model; Quantum Mechanical Model; Bonding, Molecules & Structure.
2. Acids & Bases and their Applications; Antioxidants & Anti-aging; Color and Pigments in Everyday Life.

Grading Scheme

- Labs (20%)
- Assignments (40%)
- Quizzes (40%)

[Topics and grading schemes are subject to change as deemed appropriate. Students will receive information and guidelines in class on how they will be assessed for the course.]

Attendance Requirement

Class attendance is expected and required. The minimum attendance required is 70%.

Instructors

Dr. Emily TSANG

Dr. Tsang received both her BSc (in Environmental Science, with Chemistry Concentration) and PhD (in Chemistry) from Simon Fraser University in Vancouver, Canada. During her graduate studies, she has conducted research in the area of polymer electrolyte membranes for fuel cells, and has published research articles and book chapters in a number of international academic journals. Dr. Tsang joined the Department of Chemistry at HKUST in 2012. She is now a lecturer and has taught credit-bearing courses at both undergraduate and graduate levels. These include the introductory General Chemistry Courses, the Chemistry Capstone Project course, as well as the postgraduate-level course in Macromolecular Analysis. She has been jointly teaching SISP 1102 '*Chemistry in the Modern World*' for the HKUST Summer Institute since 2013 and has received excellent teaching evaluations from the students she taught.

Dr. Dennis CHAN

Dr. Chan received both his BSc (in Chemistry) and PhD (in Organic Chemistry) from the Chinese University of Hong Kong. He is specialized in organic synthesis of molecules with potential pharmaceutical values and application of organometallic reagent in organic synthesis. He currently teaches a University Common Core course (in science and technology area) and supervises final year undergraduate students in completing their capstone projects. He also oversees practical chemistry courses in the Department of Chemistry covering various areas of chemistry realm – including organic chemistry, inorganic chemistry, biomolecular chemistry, material chemistry and pure chemistry. He has involved in teaching of SISP 1102 '*Chemistry in the Modern World*' for the HKUST Summer Institute since 2011. He has also been teaching courses organized by the Center for the Development of the Gifted and Talented, HKUST, since 2011 and is very experienced in teaching gifted secondary school students.